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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,145

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Eugen Aldea

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10/28/2009

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EXAMINER

ALEMU, EPHREM

ART UNIT

PAPER NUMBER

2821

MAIL DATE

DELIVERY MODE

10/28/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/584,145	Applicant(s) ALDEA ET AL.	
	Examiner Ephrem Alemu	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9-13, 17 and 19-24 is/are rejected.
- 7) ☒ Claim(s) 6, 14-16 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/22/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

2. Claim 8 is objected to because of the following informalities: in claim 8, line 2, the unit for "secondary electron emission between 0.01 and 1" has not been provided. Appropriate correction is required.

Double Patenting

3. Claims 1-5, 7-9, 10-13, 17, 24 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, 3, 12, 15, 21, 22, 23, 25, 28 and 29 of copending Application No. 10/584,075. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons:

With respect to claim 1, the instant application claims a method for controlling a glow discharge plasma in a gas or gas mixture under atmospheric conditions, in a plasma discharge space comprising at least two spaced electrodes, wherein at least one plasma pulse is generated by applying an AC plasma energizing voltage to said electrodes causing a plasma current and a displacement current (corresponds to a method of removing contaminants from a surface of a substrate by subjecting said substrate surface to an atmospheric pressure glow plasma generated in a discharge space comprising one or more electrodes, wherein said plasma is generated by applying an alternating plasma energizing voltage to said electrodes causing a plasma current

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and a displacement current as claimed in claim 1 of the copending application '075), said at least one plasma pulse comprising an absolute pulse maximum, said method comprises the step of controlling said energizing voltage such that a relative decrease of said displacement current is provided before said pulse maximum (corresponds to wherein said plasma comprises plasma pulse having an absolute pulse maximum, and wherein said displacement current is controlled by controlling said energizing voltage such that said relative decrease of said displacement current is provided before said pulse maximum as claimed in claim 12 of the copending application '075). As to the further limiting claims of claim 1 as claimed in 2-5 and 7-9 of the instant application, given, the method claims as claimed in claims 1, 2, 3, 12, 13, 14 and 21 as claimed the copending application '075, the further limiting claims as claimed in 2-5 and 7-9 of the instant application would have been deemed to be obvious for no other reason than controlling the energizing voltage such that a relative decrease of the displacement current is provided before the pulse maximum.

With respect to claim 10, the instant application claims an apparatus for controlling a glow discharge plasma in a discharge space having at least two spaced electrodes, means for introducing in said discharge space a gas or gas mixture under atmospheric conditions, a power supply for energizing said electrodes by applying an AC plasma energizing voltage to said electrodes for generating at least one plasma pulse and causing a plasma current and a displacement current (corresponds with an apparatus for removing contaminants from a surface of a substrate by subjecting said substrate surface to an atmospheric pressure glow plasma, comprising a discharge space, wherein said discharge space comprises one or more electrodes, means for generating said atmospheric pressure glow plasma in said discharge space using said

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electrodes, wherein means for generating said plasma comprise means for applying an AC plasma energizing voltage to said electrodes for causing a plasma current and a displacement current” as claimed in claim 22 of the copending application ’075), said at least one plasma pulse comprising an absolute pulse maximum, and means for controlling said plasma, said means for controlling said plasma are arranged for controlling said energizing voltage such that a relative decrease of said displacement current is provided before said pulse maximum (corresponds with “wherein said means for generating said plasma are arranged for generating at least one plasma pulse having a pulse maximum, and wherein said means for controlling said displacement current are arranged for controlling said displacement current before said pulse maximum” as claimed in claim 28 of the copending application ’075). As to the further limiting claims of claim 10 as claimed in claims 11-13, 17 and 19-23 of the instant application, given, the apparatus claims as claimed in claims 21-25 and 28 as claimed in the copending application ’075, the further limiting claims as claimed in 11-13, 17 and 19-23 of the instant application would have been deemed to be obvious for no other reason than controlling the energizing voltage such that a relative decrease of the displacement current is provided before the pulse maximum

With respect to claim 24, the instant application claims a device for treating a surface of a substrate, comprising an apparatus for controlling a glow discharge plasma in a discharge space having at least two spaced electrodes, means for introducing in said discharge space a gas or gas mixture under atmospheric conditions, a power supply for energizing said electrodes by applying an AC plasma energizing voltage to said electrodes for generating at least one plasma pulse and causing a plasma current and a displacement current (corresponds with “an apparatus for removing contaminants from a surface of a substrate by subjecting said substrate surface to an

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atmospheric pressure glow plasma, comprising a discharge space, wherein said discharge space comprises one or more electrodes, means for generating said atmospheric pressure glow plasma in said discharge space using said electrodes, wherein means for generating said plasma comprise means for applying an AC plasma energizing voltage to said electrodes for causing a plasma current and a displacement current” as claimed in claim 22 of the copending application ’075), said at least one plasma pulse comprising an absolute pulse maximum, and means for controlling said plasma, said means for controlling said plasma are arranged for controlling said energizing voltage such that a relative decrease of said displacement current is provided before said pulse maximum (corresponds with “wherein said means for generating said plasma are arranged for generating at least one plasma pulse having a pulse maximum, and wherein said means for controlling said displacement current are arranged for controlling said displacement current before said pulse maximum” as claimed in claim 28 of the copending application ’075).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

4. Claims 6, 14, 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claim 16 is objected to as being dependent upon objected claim 15.

Conclusion

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6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gherardi et al. (US 6,299,948); Kunhardt et al. (US 6,147,452); and Porter et al. (US 6,046,546); teach similar inventive subject matter.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ephrem Alemu whose telephone number is (571) 272-1818. The examiner can normally be reached on M-F 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W Owens can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EA
10-26-09

/Douglas W Owens/
Supervisory Patent Examiner, Art Unit 2821
October 26, 2009